FIG. 1
PRIOR ART

```
1    c:\collections
2        notes.txt
3        myletter.doc
4        c-myhomepage
5
6          s
7            homepage.html
8            myphoto.jpg
```

FIG. 2

```
1    c:\collections
2        notes.txt
3        myletter.doc
```

```
4        c-myhomepage                      100
5          cspec
6          s
7            homepage.html
8            myphoto.jpg
```

FIG. 3

```
                                                      102
1    collection       c-myhomepage
2    coll-type        cf-web-page
3    coll-desc        A sample homepage collection
4    end-collection
```
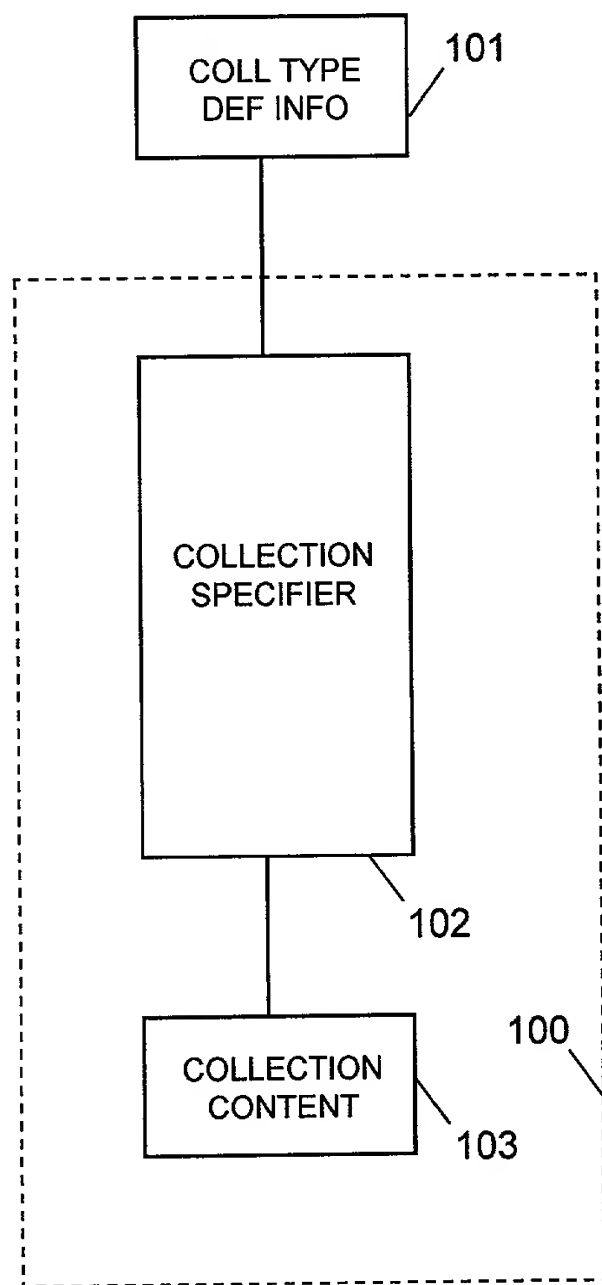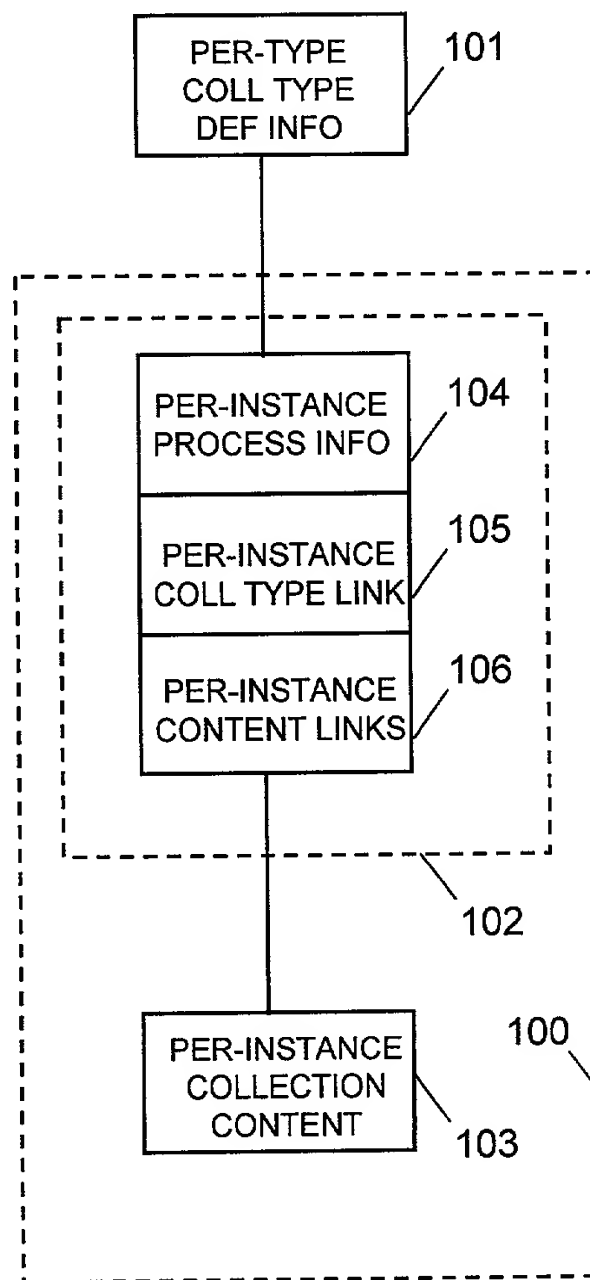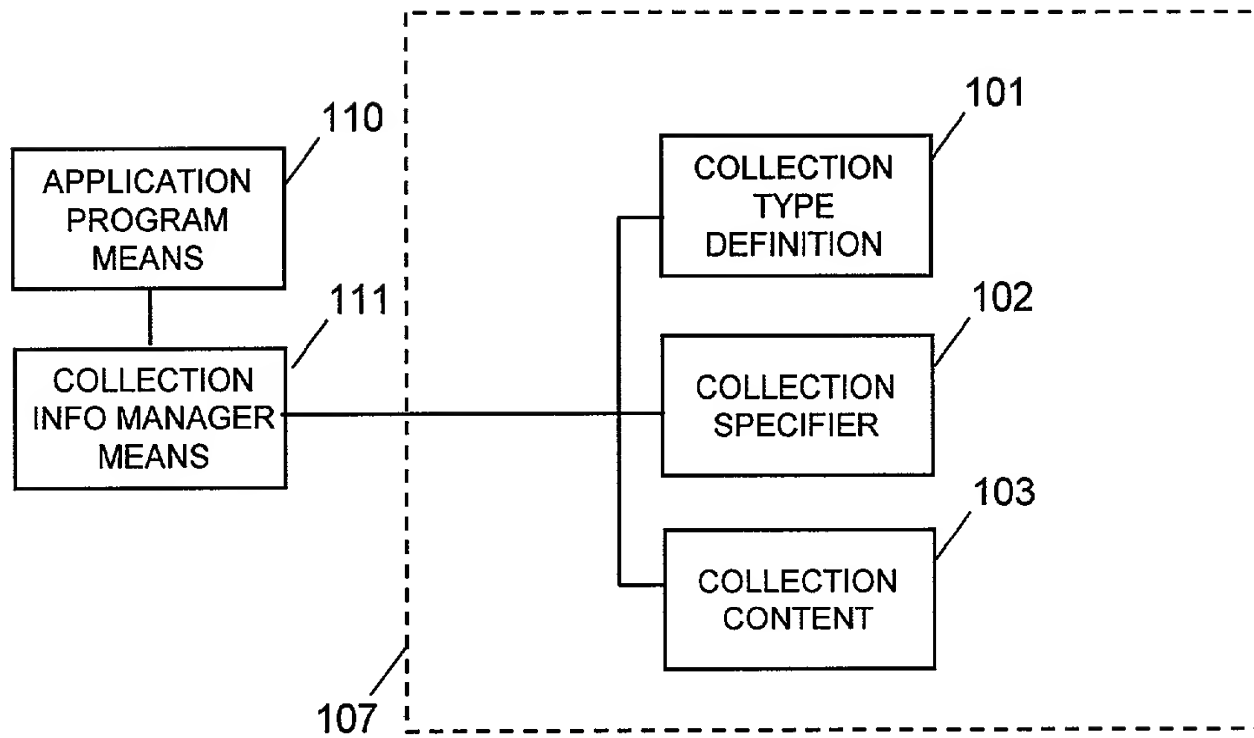
FIG. 4

FIG. 5

COLL TYPE
DEF INFO — 101

COLLECTION
SPECIFIER
— 102

COLLECTION
CONTENT
— 103

— 100

PER-TYPE
COLL TYPE
DEF INFO — 101

PER-INSTANCE
PROCESS INFO — 104

PER-INSTANCE
COLL TYPE LINK — 105

PER-INSTANCE
CONTENT LINKS — 106

— 102

PER-INSTANCE
COLLECTION
CONTENT
— 103

— 100

FIG. 6

APPLICATION PROGRAM MEANS — 110

COLLECTION INFO MANAGER MEANS — 111

COLLECTION TYPE DEFINITION — 101

COLLECTION SPECIFIER — 102

COLLECTION CONTENT — 103

107

FIG. 7

APPLICATION PROGRAM MEANS — 110

COLLECTION INFO MANAGER MEANS — 111

COLLECTION TYPE DEF API MEANS — 112

COLLECTION TYPE DEF SERVER MEANS — 115

COLLECTION SPECIFIER API MEANS — 113

COLLECTION SPECIFIER SERVER MEANS — 116

COLLECTION CONTENT API MEANS — 114

COLLECTION CONTENT SERVER MEANS — 117
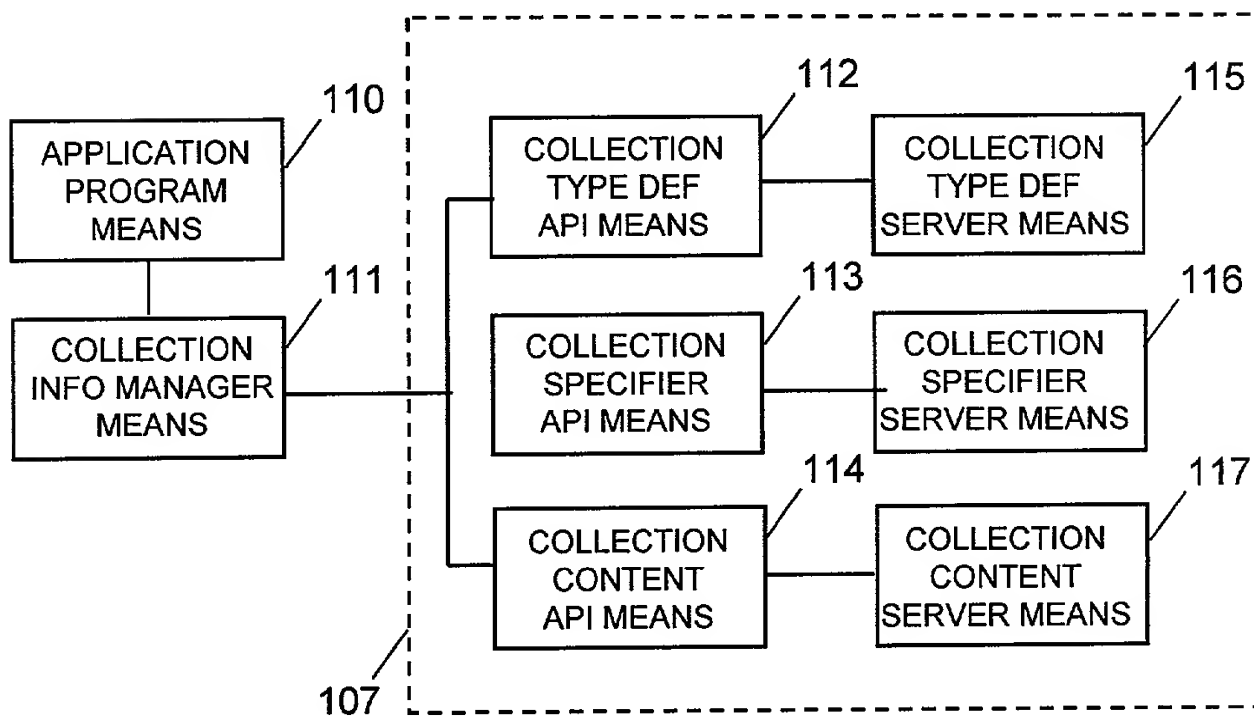
107

FIG. 8

```
1   /* collection data structure */
2   collection-info {

3     + specifier_info
4         + coll-type-indicator
5         + other specifier information ...

6     + content_info
7         + content_location_info ...
8         + content_members ...
9         + other content information...

10    + other collection structure information...
11  }
```

FIG. 9

```
1   /* collection type definition data structure */
2   collection-type-definition-info {

3     + coll-type-name
4     + collection internal structure info ...
5     + collection content location info ...
6     + collection content type recognition info ...

7     + other collection type definition information...
8   }
```

FIG. 10

KEY   VALUE

```
 1   /* collection type internal structure definitions */
 2   dir_source_files        .\s
 3   dir_doc_files           .\doc

 4   /* content location definitions (per-type content links) */
 5   content_subtree_http    http://host.com/some/dir/name
 6   content_subtree_ftp     ftp://host.com/some/dir/name
 7   content_subtree_nfs     /some/local/directory/name

 8   /* content type recognition definitions */
 9   content_policy          subtree_below_cspec_file
10   content_file_type       .c      file_cpp
11   content_file_type       .c      file_c
12   content_file_type       .h      file_c_include
13   content_file_type       .doc    file_ms_word
14   content_file_type       .html   file_html
15   content_file_type       .xls    file_ms_excel

16   /* collection processing definitions */
17   compile_c_files         yes
18   compiler_windows        vc++
19   compiler_unix           gcc
20   build platforms         Win98, Win2000, linux
21   process files           compile link
22   link libraries          stdio math sock

23   /* results dispatching definitions */
24   results_ftp_host        ftp.output.com
25   results_ftp_dir         c:\ftphome\collection\results
```

FIG. 11

```
1   /* Obtain and load collection specifier instance information */
2   Identify collection specifier text file
3   Open, read, and parse specifier information
4   Load specifier information into data structure
5   Close collection specifier text file.

6   /* Obtain and load collection type definition information */
7   Obtain collection type indicator from spec info
8   Use indicator to identify collection type definition file
9   Open, read, and parse collection type definition information
10  Load collection type definition into data structure
11  Close collection type definition text file.

12  /* Obtain and load collection content attribute information */
13  Obtain content info from type definition
14  Use content attribute info to identify content files
15  Load content info into data structure

16  Make data structures containing collection instance,
    collection type, and collection content attribute info
    available to the application program for processing the collection.
```

FIG. 12

COLLECTION CATEGORY	HAS TYPE	HAS CONTENT	DESCRIPTION
1	1	1	(most common) normal coll
2	1	0	(most common) normal cspec only
3	0	1	(rare) untyped temporary collection
4	0	0	(rare) untyped cspec only (Common as an initial starting point for programs that generate collections from nothing.)